

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number  
**WO 2005/009104 A3**

(51) International Patent Classification<sup>7</sup>: **C07C 69/76**,  
61/00, 51/16

(74) Agent: **SEIDMAN, Stephanie, L.**; Fish & Richardson,  
P.C., 12390 El Camino Real, San Diego, CA 92130 (US).

(21) International Application Number:  
PCT/US2004/023788

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PI, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(22) International Filing Date: 16 July 2004 (16.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/487,915 16 July 2003 (16.07.2003) US

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): **LIGAND  
PHARMACEUTICALS INCORPORATED** [US/US];  
10275 Science Center Drive, San Diego, California 92121  
(US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MAPES, Christo-  
pher** [US/US]; 8255 Pasadena Avenue, La Mesa, CA  
91941 (US). **KARANEWSKY, Donald** [US/US]; 1797  
Continental Lane, Escondido, California 92029 (US).  
**THOMPSON, Anthony** [US/US]; 1000 Escalon Avenue,  
#1045, Sunnyvale, California 94085 (US). **MICHELLYS,  
Pierre** [FR/US]; 10824 Pablado Road, #221, 10824  
Pablado Road, #221, San Diego, California 92127 (US).  
**RUPPAR, Daniel** [US/US]; 5230 Fiore Terrace #K-404,  
San Diego, California 92122 (US). **CHEN, Jyun-Hung**  
[—/US]; 7614 Palmilla Drive, #58, San Diego, California  
92122 (US).

Published:

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
29 December 2005

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **BENZOIC AND PHENYL ACETIC ACID DERIVATIVES AS HNF-4 MODULATORS**

(57) Abstract: The present invention is directed to hepatocyte nuclear factor 4a (HNF-4a) receptor modulator compounds. This invention is also directed to pharmaceutical compositions containing such compounds as well as methods of using such compounds and pharmaceutical compositions for modulating HNF-4a receptors as well as processes mediated by HNF-4a receptors. Also provided are methods of making such compounds and pharmaceutical compositions, as well as intermediates used in their synthesis.

WO 2005/009104 A3